

Notice of Allowability

Application No.

10/717,101

Examiner

Bao Qun Li

Applicant(s)

ATKINS ET AL.

Art Unit

1648

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 08/21/2006.
2. ☒ The allowed claim(s) is/are 1, 3-5, 19-20, 22-24.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|--|--|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input checked="" type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date <u>10/25/2006</u> . |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____ |

Bao Qun Lu

Art Unit: 1648

DETIAL OFFICE ACTION

Response to the amendment

The Amendment and response filed on August 29, 2006 have been acknowledged. Claims 1, 20, 21, 22 and 24 have been amended. Claims 2, 6-9 were canceled. Claims 1, 3-5, 10-24 are pending. Claims 10-18 were withdrawn from the consideration. Claims 1, 3-4, 19-24 are considered before the examiner.

The amendment of claims has overcome the outstanding 112 1st paragraph rejection. The only remaining issues are double patenting over other copending application. According, the allowance of the current application is processed with approval of the SPE, Bruce Campell of Art Unit 1846.

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.
2. Authorization for this examiner's amendment was given in a telephone interview with Lewis J. Kreisler on October 25, 2005.

The application has been amended as follows:

Claim 1 (current amended). In line 2, please delete "by" and insert --- comprising ---

Claim 22 (current amended). In step b) line 2 after "virus", please insert --- to yield purged bone marrow or peripheral blood cells --- In step d) line 1 after "purged", please delete "hematopoietic" and insert --- bone marrow or peripheral blood ---

Claim 22 (reiterated) A method of treating cancer in a mammal comprising:

- a) removing bone marrow or peripheral blood cells from said mammal as a suspension,
- b) incubating said suspension of bone marrow or peripheral blood cells ex vivo with an effective amount of a vesicular stomatitis virus to yield purged bone marrow or peripheral blood cells,
- c) performing myeloablative treatment on said mammal, and

Art Unit: 1648

d) transplanting into said mammal the purged bone marrow or peripheral blood cells of step b.

Claim 24 (current amended). In line 2 before "bone marrow" please insert --- transplant of --- In line 2 before " comprising" please delete "cell transplant" and insert --- cells --- In line 3 before "incubating" please insert --- purging said bone marrow or peripheral blood stem cells by --- In line 3 before " suspension" please delete "the" and insert --- a --- In line 4 before "cells" please delete "harvested transplant" and insert --- said bone marrow or peripheral blood stem --- In line 5 before "purged" please insert --- resulting ---

Claim 24 (reiterated) A method of treating cancer in a mammal receiving a transplant of bone marrow or peripheral blood stem cells comprising purging said bone marrow or peripheral blood stem cells by incubating a suspension of said bone marrow or peripheral blood stem cells ex vivo with an effective amount of a vesicular stomatitis virus, and administering the resulting purged cells to said mammal.

Please cancel claims 10-18 and 21.

Claims 1, 3-4 and 19-20, 22-24 are allowed.

3. The following is an examiner's statement of reasons for allowance: the claimed invention is drawn to a method for purging an ex vivo transplantation mixture comprising normal, hematopoietic cells and neoplastic cells by VSV with or without chemotherapeutic agent or myeloablative treatment. Applicants find that treatment of a mixture of acute leukemia cells (OCI/AML3) and normal hematopoietic cells with VSV in the absence of interferon completely ablates the leukemia cells without killing the normal bone marrow cells. Therefore, said treatment saves the normal bone marrow progenitor cells and normal bone marrow cells. Applicants insisted in the response (02/01/2006) that the most closely related art done by applicants themselves published before teaches away from the claimed invention. The previous published result shows that VSV preferably kill more neoplastic cells only at the presence of a high dose of interferon (1000 U/ml) if the neoplastic cell is deficient in interferon responsiveness, whereas at the lower dosage of interferon, VSV kills tumor cell as well as normal human cells (Roberts et al. WW 99/18799A1, page 73, Table 26).

4. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue

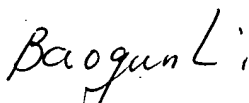
Art Unit: 1648

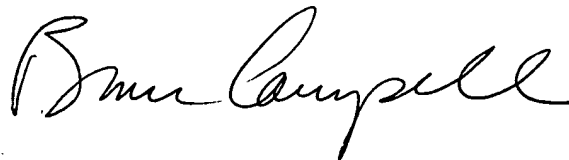
fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bao Qun Li whose telephone number is 571-272-0904. The examiner can normally be reached on 6:30 am to 3:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bruce Campell can be reached on 571-272-0974. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


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